

ENGINEERING CHANGE NOTICE

1. ECN **198885**

Proj.
ECN

2. ECN Category (mark one) Supplemental <input checked="" type="checkbox"/> Direct Revision <input type="checkbox"/> Change ECN <input type="checkbox"/> Temporary <input type="checkbox"/> Standby <input type="checkbox"/> Supersedeure <input type="checkbox"/> Cancel/Void <input type="checkbox"/>	3. Originator's Name, Organization, MSIN, and Telephone No. C. M. Loll, 7C420, R1-51, 3-5039		4. Date June 28, 1993	
	5. Project Title/No./Work Order No. 242-A Evaporator Cooling Water Sampling and Analysis Plan	6. Bldg./Sys./Fac. No. N/A	7. Impact Level 3Q	
	8. Document Numbers Changed by this ECN (includes sheet no. and rev.) WHC-SD-WM-EV-078, Rev. 2	9. Related ECN No(s). 169265	10. Related PO No. N/A	

11a. Modification Work <input type="checkbox"/> Yes (fill out Blk. 11b) <input checked="" type="checkbox"/> No (NA Blks. 11b, 11c, 11d)	11b. Work Package No. N/A	11c. Modification Work Complete N/A Cog. Engineer Signature & Date	11d. Restored to Original Condition (Temp. or Standby ECN only) N/A Cog. Engineer Signature & Date
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12. Description of Change
 Section G.1, The following analytical method changes were made:

EPA Method 6010 was added for the analysis of tin and lead.
 EPA Method 365.4 was added for the analysis of phosphorus.
 EPA Method 335.2 was added for the analysis of total cyanide.
 EPA Method 350.3 was added for the analysis of ammonia.
 The analytical methods for bromide, chloride, and fluoride were changed to EPA Method 300.0

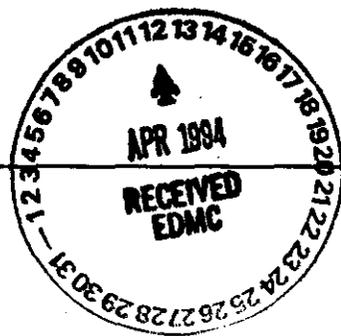
13a. Justification (mark one)	Criteria Change <input checked="" type="checkbox"/>	Design Improvement <input type="checkbox"/>	Environmental <input type="checkbox"/>
As-Found <input type="checkbox"/>	Facilitate Const. <input type="checkbox"/>	Const. Error/Omission <input type="checkbox"/>	Design Error/Omission <input type="checkbox"/>

13b. Justification Details
 The addition of analytical methods were made in order to allow more flexibility in choosing laboratories to perform the analyses. *CMR 7/30/93*

The change from previously specified methods to method 300.0 for chloride, bromide, and fluoride was made because the original methods which were called out were not available on contract. *th CMR 7/30/93*

14. Distribution (include name, MSIN, and no. of copies)
 See Attached Distribution

RELEASE STAMP OFFICIAL RELEASE BY WHC DATE AUG 31 1993 55 <i>Sh. 4</i>
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242-A-9028116

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15. Design Verification Required
 Yes
 No

16. Cost Impact

ENGINEERING	CONSTRUCTION
Additional Savings	Additional Savings
N/A <input type="checkbox"/> \$	N/A <input type="checkbox"/> \$

17. Schedule Impact (days)

Improvement	N/A
Delay <input type="checkbox"/>	<input type="checkbox"/>

18. Change Impact Review: Indicate the related documents (other than the engineering documents identified on Side 1) that will be affected by the change described in Block 12. Enter the affected document number in Block 19.

SDD/DD	<input type="checkbox"/>	Seismic/Stress Analysis	<input type="checkbox"/>	Tank Calibration Manual	<input type="checkbox"/>
Functional Design Criteria	<input type="checkbox"/>	Stress/Design Report	<input type="checkbox"/>	Health Physics Procedure	<input type="checkbox"/>
Operating Specification	<input type="checkbox"/>	Interface Control Drawing	<input type="checkbox"/>	Spares Multiple Unit Listing	<input type="checkbox"/>
Criticality Specification	<input type="checkbox"/>	Calibration Procedure	<input type="checkbox"/>	Test Procedures/Specification	<input type="checkbox"/>
Conceptual Design Report	<input type="checkbox"/>	Installation Procedure	<input type="checkbox"/>	Component Index	<input type="checkbox"/>
Equipment Spec.	<input type="checkbox"/>	Maintenance Procedure	<input type="checkbox"/>	ASME Coded Item	<input type="checkbox"/>
Const. Spec.	<input type="checkbox"/>	Engineering Procedure	<input type="checkbox"/>	Human Factor Consideration	<input type="checkbox"/>
Procurement Spec.	<input type="checkbox"/>	Operating Instruction	<input type="checkbox"/>	Computer Software	<input type="checkbox"/>
Vendor Information	<input type="checkbox"/>	Operating Procedure	<input type="checkbox"/>	Electric Circuit Schedule	<input type="checkbox"/>
OM Manual	<input type="checkbox"/>	Operational Safety Requirement	<input type="checkbox"/>	ICRS Procedure	<input type="checkbox"/>
FSAR/SAR	<input type="checkbox"/>	IEFD Drawing	<input type="checkbox"/>	Process Control Manual/Plan	<input type="checkbox"/>
Safety Equipment List	<input type="checkbox"/>	Cell Arrangement Drawing	<input type="checkbox"/>	Process Flow Chart	<input type="checkbox"/>
Radiation Work Permit	<input type="checkbox"/>	Essential Material Specification	<input type="checkbox"/>	Purchase Requisition	<input type="checkbox"/>
Environmental Impact Statement	<input type="checkbox"/>	Fac. Proc. Samp. Schedule	<input type="checkbox"/>		<input type="checkbox"/>
Environmental Report	<input type="checkbox"/>	Inspection Plan	<input type="checkbox"/>		<input type="checkbox"/>
Environmental Permit	<input type="checkbox"/>	Inventory Adjustment Request	<input type="checkbox"/>		<input type="checkbox"/>

19. Other Affected Documents: (NOTE: Documents listed below will not be revised by this ECN.) Signatures below indicate that the signing organization has been notified of other affected documents listed below.

Document Number/Revision	Document Number/Revision	Document Number/Revision
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20. Approvals

Signature	Date	Signature	Date
OPERATIONS AND ENGINEERING		ARCHITECT-ENGINEER	
Cog Engineer * <i>CM Loll / CM Loll</i>	<u>6/30/93</u>	PE	_____
Cog. Mgr. * <i>R.D. Gust</i>	<u>6/30/93</u>	QA	_____
QA * <i>MJ Wam</i>	<u>7/8/93</u>	Safety	_____
Safety	_____	Design	_____
Security	_____	Environ.	_____
Environ.	_____	Other	_____
Projects/Programs * <i>WR Spec</i>	<u>7-20-93</u>		_____
Tank Waste Remediation System	_____		_____
Facilities Operations	_____	DEPARTMENT OF ENERGY	_____
Restoration & Remediation	_____	Signature or Letter No.	_____
Operations & Support Services	_____		_____
IRM	_____	ADDITIONAL	_____
Other	_____		_____

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Analyte List

Method of Analysis

Graphite furnace atomic absorption (AA) metals

Arsenic	EPA method 7060
Lead	EPA method 7421/6010
Mercury	EPA method 7470 (cold vapor)
Selenium	EPA method 7740
Tin	EPA method 7870/6010
Total cyanide	EPA method 9010/9012/335.2
Hexavalent Chromium	EPA method 7196
Bromide	EPA method 300.0
Chloride	EPA method 300.0
Fluoride	EPA method 300.0
Total oil and grease	EPA method 9070
Total phenols	EPA method 9065/9066/9067
Biological oxygen demand (BOD)	EPA method 405.1
Chemical oxygen demand (COD)	EPA method 410.1, .2, .3, .4
Total organic carbon (TOC)	EPA method 9060
Phosphorus	EPA method 365.2, .3, .4
Nitrogen, nitrate, nitrite	EPA method 353.1, .2, .3
Ammonia	EPA method 350.1, .2, .3
Total dissolved solids (TDS)	EPA method 160.1
Total suspended solids (TSS)	EPA method 160.2
Alkalinity	EPA method 310.1/310.2
pH	EPA method 9040
Conductivity	EPA method 9050
Total alpha/beta	WHC approved laboratory method
<u>Radionuclides</u>	WHC approved laboratory method
Plutonium-238, 239, 241	
Americium-241	
Strontium-89, 90	
Cesium-137	
Ruthenium-103	
Ruthenium-Rhodium-106	

The handling and preparation of samples will comply with the procedures found in the, Environmental Investigations and Site Characterization Manual, WHC-CM-7-7. When an analysis requires that a preservative be added to the sample bottle, the preservative is added in a clean laboratory environment prior to traveling to the sampling site. At the time of sample bottle preparation a chain of custody (COC) form will be initiated and will accompany the sample bottle into the field. A COC form will accompany each liquid effluent characterization sample, which may consist of several containers. The COC will account for each container. The sample bottles are stored in a cooler sealed with tamper evident tape and all custody transfers are noted on the bottle COC form.

421-9028146